

Amendment and Response  
Applicants: David W. Skinkle et al.  
Serial Number: 10/659,855

Attorney Docket: CV0295US

LISTING OF CLAIMS:

Claims 1 to 33 (Canceled).

34. (Currently amended) A centrifuge apparatus for processing blood comprising:

a bottom support plate;

a top support plate;

an axial inlet/outlet for blood to be processed and processed components of the blood, the axial inlet/outlet being attached to the top support plate by a rotating seal assembly;

a variable volume separation chamber mounted between the bottom support plate and the top support plate, the variable volume separation chamber being fluidly connected to the axial inlet/outlet;

a pump fluidly connected to the axial inlet/outlet; and

a rotary drive unit attached to the bottom support plate,

wherein the top holder is fixed vertically and the bottom support plate is mounted on a mechanical actuator that maintains pressure on the variable volume separation chamber and allows the bottom support plate to move vertically, and

wherein the mechanical actuator is a ball-screw actuator.

35. (Currently amended) An apparatus of claim 33 34, wherein mechanical actuator is controlled automatically by a processing unit.

Claims 36 to 39 (Canceled).

40. (Currently amended) A centrifuge apparatus for processing blood comprising:

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a bottom spring-loaded support plate;  
a top support plate;  
an axial inlet/outlet for blood to be processed and processed components of the blood, the axial inlet/outlet being attached to the top support plate by a rotating seal assembly;  
a variable volume separation chamber mounted between the bottom support plate and the top support plate, the variable volume separation chamber being fluidly connected to the axial inlet/outlet;  
a pump fluidly connected to the axial inlet/outlet; and  
a rotary drive unit attached to the bottom support plate,  
wherein the top support plate is fixed vertically and the bottom spring-loaded support plate is mounted on springs that maintain pressure on the variable volume separation chamber and allow the bottom support plate to move vertically, and  
wherein a disposable cartridge has been mounted on the apparatus, the disposable cartridge comprising a plurality of ports for receiving or dispensing blood or blood components and a fluid sensor pathway for displaying blood or blood components for analysis, the cartridge being adapted to be mounted on a multi-position valve for directing flow between the ports and the fluid sensor pathway being adapted to be mounted adjacent to one or more sensors for analyzing blood.

41. (Currently amended) An apparatus of claim 39 40, wherein the disposable cartridge snaps on to the apparatus.

Claim 42 (Canceled).